

2011 Tech Crawl -- APES “Clean” Energy Project

using Diigo as a Tool to Aid Student Research

Background -- The 2010 United Nations Climate Change Conference in Cancun, Mexico produced a general *agreement* (not a binding treaty, alas) among the international community:

Warming of the Earth’s climate system is unequivocal. Furthermore, most of the increase in global average temperatures since the mid twentieth century is *very likely* due to the increase in *anthropogenic* greenhouse gas concentrations in the troposphere, as documented by the Intergovernmental Panel on Climate Change in its Fourth Assessment Report of 2007.

Climate change caused by global warming is an urgent and potentially irreversible threat to human societies and the planet, and is one of the greatest challenges of our time.

*Deep cuts in greenhouse gas emissions are required and this goal will require a *paradigm shift by all nations away from fossil fuel energy toward clean, renewable sources of domestic energy**

Objectives of Project

(1) Small groups collaborated to research one source of renewable energy (solar, wind, geothermal, biomass or ocean), using the cloud-based Diigo interface to store, organize, annotate their online resources and share within the group, and (2) created a dynamic presentation on the pros of their energy source and a suite of technologies, and the cons of another renewable energy source.

This project helped me (3) incorporate 21st century skills into APES, and (4) allowed me to evaluate the usefulness of Diigo as a research tool for our US students.

Presentation Requirements

- Summarize the interactions among Earth systems that **RENEW** your energy source.
 - Select **THREE TECHNOLOGIES** that interest your team. Explain how each technology transforms the energy source into fuel, heat, or electricity. *Animations and/or videos required!* Props are a great idea!
 - Use an **ENERGY POTENTIAL MAP** to help identify the **BEST REGIONS** of the US to use each technology. Refer to the quantities used on the map (MW, kWh, wind speed, temperature, etc)
 - For two of the technologies -- highlight how they are currently used in **BIG** way – in the US or in another country. Make sure to explain how much energy is generated by the installation (kW, MW, number of homes served, cars fueled, etc.) *Video required!*
 - Include one technology that is cutting edge/futuristic in its vision -- something new on the horizon, something totally revolutionary and exciting in its potential
- Explain how this suite of technologies better **PROTECT THE ENVIRONMENT** compared to fossil fuels.
- Identify **ONE MAJOR DRAWBACK** with the *other* renewable energy source that you were assigned to.
- Use **DIIGO** to permanently bookmark, capture, organize and annotate web-based source material (documents, web pages, images, diagrams, videos, and audio, etc.) and share with your team



Why I incorporated Diigo into the APES Renewable Energy Project

Educational Accounts

Diigo permits teachers to apply for an educational account that provides access to features that are otherwise restricted to premium users.

Social Bookmarking

Students use Diigo to store, organize and annotate most web-based content to create their own Personal Learning Network *and* share some or all of their PLN with others.

Cloud-Based

Diigo account is available at any time from any computer or smart phone

Diigo supports collaborative research for group projects.

Tags

Students add tags to bookmarks to categorize info using a taxonomy that is meaningful to them.

Highlighting

Multiple colors of highlighting allow students to isolate pertinent information and easily return to it – reducing the need to print (and waste) paper.

Sticky Notes

Allow students to publicly or privately annotate resources, remind themselves where the info fits into their presentation, and post messages for classmates with whom they collaborate.

Capture

Students can capture an image of part or all of a web page *and* capture video for direct insertion into Diigo

Diigo supports organization, deep reading, and accurate citation of content